Project report: Evaluation of two post-graduate pre-registration nursing modules 'Finding the Blend': An evaluation of the balance between online and face to face learning and teaching in a blended curriculum

Karen Rawlings-Anderson, Senior Lecturer Adult Nursing and Nataša Perović Senior Education Technologist (School of Health Sciences), and Neal Sumner Senior Lecturer Education Development (Learning Development Centre).

Abstract:
In the School of Health Sciences we have adopted a blended learning approach for the delivery of the current nursing curriculum. It is intended to enhance and extend the learning opportunities for students.

This approach makes full use of available learning technologies whilst recognising the value of face to face interaction and facilitation. It fosters supportive and collaborative learning networks amongst students and encourages deep learning by engaging students in incremental learning tasks and, student directed learning. It also enables students to self-pace their learning.

As our nursing programme is being implemented we have engaged both academics and students in a systematic and iterative evaluation of the blended aspects of the programme.
Our aims were to:

a) Investigate how students experience the current balance between their classroom and online activities
b) Evaluate the effectiveness of the range of activities, both online and face to face
c) Identify points of good practice based on project evaluation and available literature.

In this paper we share the results of our evaluation and highlight key messages for further development and improvement of designing the 'blend'. Our recommendations may be beneficial for design teams who may need to engage in similar projects in the future.

Key words: blended learning, online learning, curriculum design

Introduction and context:
In 2011 a curriculum development team in the School of Health Sciences was set up to lead a review of current provision and to develop a new pre-registration programme as the pre-registration curriculum had reached the end of its 5 year approval period by the Nursing and Midwifery Council (NMC). The team's remit was to develop one programme to cover both BSc and Post-graduate diploma pathways across three fields of practice (adult, mental health and children's nursing). Additionally the team were tasked with developing the curriculum with an emphasis on a blended learning approach. There were a number of drivers for this shift which included a growing awareness of increasing student use of technology and demand for more flexible learning opportunities, a corresponding growth in the range of university supported technologies under the umbrella of the Strategic Learning Environment (SLE) and, importantly, a changing balance between face to face contact and student self-directed study hours allocated by management to deliver the curriculum. This required a re-examination of the balance between face to face teaching delivery and student guided independent study and self- directed learning, but also a plan to further integrate the use of learning technologies into the curriculum design and delivery.

Following a series of planning meetings to which all interested stakeholders were invited, including academic module leads, students, service users and educational technologists, the curriculum was approved and the new programme commenced in September 2012. As part of an iterative evaluation of the programme, the authors set up a project to evaluate the first two modules of the post-graduate diploma pathway. The remit of the project was to:
a) Investigate how students and academics experience the current balance between their classroom and online activities
b) Evaluate the effectiveness of the range of activities, both online and face to face
c) Identify points of good practice based on project evaluation and available literature.

Rationale
We work in an academic environment where we strive to drive up quality standards and improve the student learning experience. However the reality of academic practice is that there is an expectation that this will be achieved whilst working with limited and/or decreasing resources, especially, as noted above, in terms of allocated staff teaching time.

In our context a blended approach to learning and teaching combines and aligns learning undertaken in face-to-face sessions with learning opportunities created online. The blended approach we have adopted for the delivery of the nursing curriculum is one which enhances and extends the learning opportunities for students who have full 24/7 online access to relevant documents and learning resources and the opportunity to submit most summative assessments electronically (Graham, 2005).Our approach to blended learning is to make maximum use of the learning technologies available to us through the University whilst effectively combining these with face to face interaction and facilitation. A further aim was to encourage and facilitate the development of peer to peer learning between students through the creation of supportive and collaborative learning networks. Through this blend the academics were concerned to encourage deep rather than surface learning by engaging students in incremental learning tasks and student directed learning. The blended approach also required students to manage their learning at a time and place best suited to their needs (Garrison & Kanuak, 2004; Ginns & Ellis, 2007).

The project team were interested in the reality for both academics and students of implementing a blended curriculum. It was the brief and intention of the curriculum team to design and deliver a blended curriculum which would allow students any time any place access to a richer range of learning materials, including, greater use of multi-media, which would support their learning, as well as providing increased opportunities for peer to peer learning and support. For academics teaching on the programme the intention of the project team was to provide a clear set of guidelines as to the ‘look and feel ‘of the new curriculum, its core philosophy, both in terms of curriculum content and pedagogic approach, as well as providing ideas and digital resources from which the constituent modules of the programme could be developed. Does the blended approach to learning and teaching which was implemented as a result live up to expectations? This project therefore set out to investigate these issues by asking both students and staff about their experiences of the first two modules of the new programme. In order to carry out the study we had to seek ethical approval for the study, which was given by the Learning Development Centre Board of Studies which funded our small research project.

Methodology

Focus groups with academic staff and students were used as a method to evaluate the new blended curriculum (Littlejohn & Pegler, 2007). The use of focus groups as a method of data collection was deemed to be the most appropriate within the resources of the project (Barbour 2007). Discussions within focus groups also have the advantage of allowing a number of perspectives to emerge from the group discussions whilst simultaneously eliciting a majority view (Litosseliti, 2003).

A purposeful sample was drawn from both academic staff and students (September 12 cohort). Students from adult, mental health and children's nursing were included. All academics who had taught on or had developed online materials for the programme and all students in the cohort were invited to participate in the study. Students were offered £15 vouchers from an online store in recognition of the time taken to attend the focus groups. A total of 7 focus groups were held. 2 focus groups were undertaken with academics (n=8) and 5 with students (n=29). These represent response rates of 36% and 31% respectively. The focus groups were facilitated and moderated by the project team.

All potential participants were invited to contribute to the study via e-mail and the virtual learning environment (Moodle). Potential participants were given information about the nature of the study and a consent form. Participation was voluntary with the ability to withdraw at any time without penalty. Consent forms were signed prior to the commencement of the focus groups. All participants were assured that confidentiality would be upheld and all data was anonymised at the data analysis stage.

Each focus group lasted for an hour using a topic guide guided by the original ethical approval documents. The focus group discussions were audio-recorded and then transcribed verbatim. The researchers also made field notes during and after the focus groups to capture initial thoughts regarding the content of the discussions.

In order to analyse the data two of the research team read the transcripts of the focus groups several times to immerse themselves in the data. Miles and Huberman (2002) suggest that this is an important stage prior to embarking upon data analysis so that the researcher has a good overview of the data prior to deconstructing it in first level (descriptive) coding. Descriptive coding enables the researcher to label or code passages of text in relation to the intent and meaning of each passage. This led to the development of a broad descriptive coding framework which was inputted into qualitative data analysis software (N Vivo 10). The researchers then independently coded each transcript manually. Each researcher wrote analytic memos during the initial coding process to capture emergent patterns and reflections on the process. After all transcripts had been first level coded, the researchers met to review each other's coding and ensure that their 'individual coding efforts harmonize' (Saldaña, 2013, p 34). At this stage it was felt that intercoder agreement was acceptable (above 90%) and the coding data was inputted into NVivo. Not every sentence was coded as some (though few) sentences were irrelevant to the study. It should be noted that due to the intricacies of language some passages were allocated more than one code.

After lengthy review and discussion about the meaning and common elements of the descriptive codes these were amended and then collapsed into 4 themes. The themes and codes can be seen in table 1 where illustrative quotes for each code are given.

Issues of rigour in qualitative research have been noted as being problematic (Morse, 2004; Sandelowski, 2004). It is suggested that conventional standards of evaluation of quantitative research such as reliability and validity are not appropriate to apply to qualitative studies (Ryan-Nicholls and Will, 2009). It has been suggested by Miles and Huberman (2002) that establishing auditability, applicability and truth value are strategies for achieving rigour in qualitative research. In this study auditability has been achieved by clearly articulating the iterative process of coding through NVivo archives and the researchers' analytic memos. Applicability and truth value have been achieved by ensuring that the coding and discussion of this is representative of all participants' views and that typical and atypical data is depicted in the discussions. Truth value has also been demonstrated by comparing the results of each focus group against each other to identify similarities and differences expressed by the participants. The overall rigour of the research has been augmented by dual coding of the data and extensive discussions relating to emergent themes and their applicability to a variety of disciplines.

Results

Blended learning Thematic coding framework		
Themes	**Codes**	**Quotes**
Communication	Signposting	"it was very much; "Really? What do we have to do? What do we need to do? Why do we have to do it" (student)
	Interaction	"I find them (face to face sessions) really good and they make the subjects come alive … I find that a much better way of learning for me and it is much more interactive", "We have a bit of a Facebook interaction going which is much easier to use and very much more instant and probably does the same kind of thing, but it is just far more user friendlier" (students)
	Expectations	"the dependency on Moodle was never really fully explained until half way through the course when we started to miss things… Well, I didn't really know about Moodle until the second week" (student)
Learning and teaching	Activity	"You come to it (session) with questions rather than leaving it with questions" (student) "that's going to take quite a big step for us to be brave enough not to have to give them all of the information all of the time" (academic)
	Application to practice	"And with clinical skills the labs and things like that are really important for practising skills and seeing exactly how they work" (student)
	Assessment	"The online quizzes have been great because they let you know where you are and… whether you should be worried or not " (student)
	Evaluation	"... the lecturers are so knowledgeable and passionate about their subjects, that definitely comes across and makes you more interested", "To have less work that is independent or online and have more lectures ... I'd happily scrap all the eLearning stuff" (students)
	Guided independent study	"I think that was a problem because face to face issues they relied on you doing the reading before the sessions, sometimes if we couldn't find the reading, it was often done two days before the group and then we all wanted the same books and the same materials" (student)

Themes	Codes	Quotes
	Knowledge and skills	"And from working with people who have been nurses in different fields as well, so there is a lot of expert knowledge that you can access when you spend face to face time with those lecturers" (student) "but I can see a vast difference between this and what we would have had a year or eighteen months or two years ago in terms of Moodle it's vastly different" (academic)
	Planning	"you need to be very pro-active ,.. you really get out of the course what you put into it" (student)
	Sharing practice	"We all use quite a wide array of things, and we talk about it a lot. About books that we have found, and articles, and, we have a group on Facebook and I think that most people are part of it" (student) "I feel as if there's lots of creative people in the division who have ideas but we just don't have any way to share it" (academic)
	Suggestion for change or improvement	"A newbie page would be nice, Is anyone going to City to do nursing? Because, you are really excited and you want to meet your new colleagues, the new people that you are going to be working with, and that would have been nice… Hey! Welcome" (student) "we need to create a forum or a culture where we don't just work in isolation about developing these modules", "we as a group should sit down and agree how the moodle (module) should look" (academic)
	Time demand	"there needs to be a structural shift it's like everyone's saying yes let's do blended learning but there's no time allocated to that, there's no recognition of that" (academic)
Moodle	Familiarity	"I had never used Moodle, a whole new system as well at the start that takes a while for you to even get used to like how to… log in…all those little things at the start" (student) "I didn't find it easy to navigate my way around it " (academic)
	Structure	"it feels like…by having a quite higgledy piggledy way of doing things then a lot of stuff got missed for me" (student) "I think how we use it is the problem the fact that we don't have an agreed structure so we all use it slightly differently, different headings" (academic)
	Problems/Issues	"there's supposed to be an etiquette isn't there on how it looks and people aren't and we haven't got the time to bloomin police it all the time" (academic)
Resources	Accessibility	"I could access it pretty much where I was, when I want" (student)
	Availability	"Yes, it was like being in the Serengeti yesterday hunting down a computer… looking around and it took me half an hour to get one" (student)
	Evaluation	"sometimes you are too tired to sit down and read, but actually you still want to work; put on either a podcast or a video is great, because I don't have to be so switched on to learn", "the forums on Moodle are quite difficult and I think that they are a good resource, but we have under used them because they are not very user friendly" (students)
	Familiarity	"I automatically check my Facebook and it is something I do every couple of days, whereas I don't automatically check Moodle"(student)
	Ownership	"there's an interesting concept about the fact that you know if students are gonna film each other more and yes even in clinical skills it doesn't stop them from uploading it to YouTube" (academic)
	Relevance	"there was quite a number of emails last year saying there was an update, and I went to it, but it was actually for mental health, or child nursing and had no relevance whatsoever", "I try to follow it in what I think is a logical order ... I get distracted, because there is always a reference list, … so I find that maybe I am studying too much in an area that I don't need for the next lecture" (students)

Themes	Codes	Quotes
	Teaching spaces	"Moodle …. was just like the whole…It felt like… it was like another classroom in a way, and I suppose that is the whole idea…it is a virtual learning environment", "clinical skills the labs and things like that are really important for practising skills" (students)
	Technology	"I don't have a smart phone, and sometimes that feels like a real handicap" (student), "I'm not particularly technical it's looking for other people to suggest things as well ... so I'm very keen on people sharing ideas" (academic)
	Timetable	"But the actual timetabling had child, adult and mental health, and it had all of the specific sessions and it was for the whole thing, so it was about nine page long word document" (student)
	Type	"I love audio and visual… Particularly visual. Clinical skills; if I could zip through a bit quicker, I think I would be on it all of the time! I am dyslexic, so I do love visual learning but particularly if I am tired at night then it is very user friendly", "I don't tend to use other online resources. I am old fashioned and I prefer books! I use Moodle but other than that I will generally go to the library and use hard books" (students)
	Use	"watching those videos before coming to a session on a skill I find is really helpful, because you are already a bit familiar with the skill, because you are prepared, and then you can also read some of the evidence base as well on Moodle, and so, you are more prepared when you come to the session as to what you are expecting to see and you can see it in real life and that kind of re-enforces again, and then, you can practice it and that re-enforces again. I think The clinical skills online matches really well what we are taught in the sessions and matches really well what we are assessed on in the OSCE. I think that the continuity there is really good. So by watching those videos online to prepare for the OSCE, that is exactly what is expected of you, and it is really good to have that resource" , "I find myself planning ahead and looking at the lectures to come, and looking at the timetable so I know what lecture is when and what slides to read up when and stuff; more like organisation" , "The quiz was quite annoying, because if you didn't get the answer right, then you couldn't go any further. ***** took mercy on me, and dragged me for a one on one tutorial! "(students)

Table 1. Blended learning Thematic coding framework

Discussion

From a learning design perspective our findings raise a significant number of issues of interest to the blended learning community. It has identified some common issues in the adoption of blended learning which are shared by both staff and students: namely the extent to which University provided systems for online asynchronous discussion are supported and used, the need for consistency in design and usability across modules and the challenge of managing the sheer amount of information made available – frequently referred to by both staff and students as 'information overload'.

Students raised particular issues about access to relevant technologies, for example a plea from some students for more mobile access and from others who demanded better access to computer terminals on campus. Both of these clearly demonstrate that students appreciated the more flexible access to their learning materials afford by the VLE. A further consideration is that students found it much easier to use social media with which they are familiar, for example Facebook, to support their studies. They found this more user friendly than the University system which was perceived as a barrier to the instant exchange of ideas

between students who use this social media in the course of their everyday lives. A downside of this use of non-university supported discussion tools is of course the absence of the academic input into such discussions, since the group was established by students for themselves. One further lesson for the academic team is that we cannot assume that all students share the same level of digital literacy about the range of tools used by the University and by their peers. Students also responded well to opportunities to interact with the wide range of online materials, particularly commenting positively on the use of audio and video materials, and online formative assessment quizzes, which can be used in a variety of non-conventional study contexts. Students also requested that attention is given to the pace at which new materials are delivered and, where possible that they are linked to the course or module calendar.

Academic staff raised several issues in relation to the need for continual monitoring and updating of modules which can be particularly problematic where multiple academics tutor on the same modules. Concerns were expressed about design, navigability, signposting and how the blend between online and face to face delivery has been managed. This raised significant challenges for programme and module leaders to ensure a minimum level of consistency so that both part time staff and students have some consistency and cohesion in their experience of the programme. A major temptation highlighted by our research is to use the online component as an expanding information resource which has led to information overload for both academics and students. This requires academics to be mindful of the need for constructive alignment between modular learning outcomes and assessments rather than simply overloading their students with ever more resources: an easy temptation in the exponentially expanding digital information universe!

Our findings show that two key aspects of technology enhanced learning identified by Kirkup and Price (2013) are evident in this study : namely changes in the means through which university teaching happens, as well as changes in how university teachers teach and learners learn. In relation to the first of these the question arises as to how far universities should still aim to provide tools with which students are unfamiliar, such as VLE discussion boards, particularly if they experience using such tools as a barrier to engagement. That students value academic input is indicated in comments describing their frustration when academics are not ‘on tap’, so clear guidelines about when and how frequently staff respond to student queries remains an issue of importance to student perceptions of the value of a blended model.

From the academic perspective the introduction of the new blended learning curriculum has proved challenging. Whilst the benefits have been acknowledged, particularly in terms of the ability to keep materials up to date, to engage students in preparatory reading for face to face class work and to provide opportunities for student formative assessment, there have also been some frustrations and barriers to engagement which have resulted in less than wholehearted support for the new blended model. To meet the second of Kirkup and Price’s (2013) principles, that both University teachers and their students shared is the need for greater consistency in the look and feel of the online modules, arguing in favour of clear guidelines on this aspect so that materials are presented in a consistent way and that some protocols for how and when modules are updated are given. This strongly suggests that, although there may have been initial agreement on the general appearance of the modules comprising the programme, there should be continual monitoring and evaluation of the

implementation of the blended learning model, at least for the first few iterations, as well as clear mechanisms for the academic community to feedback on their experiences of the 'hands-on' delivery and to make suggestions for improvement. Inevitably these suggestions require ring-fenced time to be allocated to facilitate their realisation: at present this kind of work is not specifically recognised in the calculation of academic workloads which recognise mainly face to face teaching and research as part of the academic contract.

Project recommendations:

Level	Recommendation from data analysis	Suggestions on how this could be achieved
Strategic /organisational	Evaluation of blend of curricula built into curriculum development cycle	Curriculum development team's remit to extend past approval to enable evaluation and feedback to programme team for at least first iteration of curriculum/ identification of strategic role to undertake this.
	Resource implications of developing blended learning materials to be included in skill mix calculations.	Teaching load calculations to include time allocated to the development of materials and development of Moodle modules.
	Appropriate support for blended curriculum e.g. access to mobile devices in class ; access to sufficient PCs within University; purchase of commercially available resources.	Funding streams to include sufficient learning technology support to be available with School wide rolling programme of development updates. Number of PCs available to students to be increased as 'blend' increases
	Availability of pre-course virtual space for students waiting to commence the course	Strategic commitment to extending 'student experience' to pre-course phase of studentship.

Programme level	Clear acknowledgement of range and significance of online learning emphasised for students Agreed structure/format for modules (template) Agreed terminology and explanations of these for students Agreed process for notification of new additions to module Use wider range of strategies for assessment including feed-forward from formative activities and grade allocation for work undertaken during module Clear guidance on the use of social media for staff and students	Use of VLE identified as key aspect of learning in all pre-course information. Inductions to include more emphasis on use and navigation of Moodle. Programme Management Teams to : agree and produce • module templates • glossary of agreed terminology (taken from approved curriculum documents) • develop good practice guidelines for labelling of files/resources Encourage • allocation of marks for 'within module' small stakes assessments or for formative work set to facilitate student engagement and completion of summative assessment. Develop specific guidelines on the use of social media in academic work, building on the work of the NMC guidelines for nurses and midwives.
Modular	Clear signposting- what is expected and when. Completion tracking activated Answer guides for Guided Independent Study Increase range of resources e.g. video; pod casts; quizzes ; lecture capture etc Pacing of workload and timely uploading of materials (ideally all present at beginning of module) More clarity in assessment guidelines Consideration of allocating some marks for work completed during the module or having smaller, incremental, small stakes assessments.	Staff development activities: • introduction to module templates and best practice guidelines • how to use all activities on Moodle • Assessment workshops

Conclusion

In summary it is clear that both staff and students have found the blended approach to be beneficial, though not without attendant problems. A small minority of students and staff stated that they prefer wholly face to face teaching, though the majority in both groups perceived the blended approach to be worthwhile especially in relation to the wider range of learning materials than has traditionally been available and the flexibility that this affords. This confirms the view reached in the extensive survey of blended learning in healthcare carried out by Rowe, Franz and Bozalek (2012) that 'there are practical benefits to further explore the use of blended learning in clinical education amongst healthcare students'.

The need for clarity in the structure, guidance and protocols of the design and delivery of the online components appears to be critical for both staff and students. Academic staff expressed the need for support and central guidance in developing their modules to ensure a coherent and consistent approach within a programme. This aspect of consistency and coherence in the presentation of the online components is even more critical for students, and its absence their main source of frustration. There is a need to establish a common approach across all of the modules in the programme and places responsibility on the programme team to develop and monitor the implementation of common policies and protocols. Whilst this should not result in a monotonous uniformity it is nevertheless a key finding of our study, notwithstanding the argument that each module should be looked at individually (Welker and Beradino, 2005).

A further area of interest concerns the extent to which students experienced the blended delivery of the curriculum as contributing to a sense of learner isolation. Whilst students highly rated the face to face sessions , they were ready to use Facebook to continue academically focussed work out of class, something which may have evaded their lecturer's notice were it not for this research. Whether, and what steps can be taken for academics to manage this is an issue, which many institutions are currently facing in terms of the balance between institutionally provided tools and platforms, and those which students find for themselves, and with which they feel comfortable.

Several of the areas for improvement suggested by the students have already been addressed within the new iteration of Moodle; for example: completion tracking, better sign posting and links to the timetable. However, other suggestions may prove more challenging, for example to have some form of virtual meeting space for students prior to commencing a course. The need for more flexible, 'any time any place' access to their learning materials is reflected in the increasing use of mobile devices by students. Future developments could garner this enthusiasm by incorporating the use of mobile devices in planned learning activities.

As part of the ongoing process of iterative evaluation, we plan to invite the same students to visit the redesigned modules which we have implemented in the current academic year. In so doing we are inviting the students to engage in a process of co-construction of the design and delivery of the nursing curriculum, a process in which we also aim to engage staff as we seek to refine and improve the blended model we have described and analysed above. Additionally we are already in the process of implementing some of the findings of this research into the re-design of the Midwifery curriculum in preparation for delivery in the autumn of 2014.

References

Barbour R (ed) (2007). *Doing Focus Groups* London: SAGE [available online], doi: 10.4135/9781849208956. http://0-srmo.sagepub.com.wam.city.ac.uk/view/doing-focus-groups/SAGE.xml. Last accessed 20/08/2013.

Garrison D R & Kanuak H (2004) Blended learning: uncovering its transformative potential in higher education *The Internet and Higher Education* 7(2):95-105 [Online] Available at : http://www.sciencedirect.com/science/article/pii/S1096751604000156 Last accessed 26/3/2013

Ginns P & Ellis R (2007) Quality in blended learning: Exploring the relationships between on-line and face-to face teaching and learning *The Internet and Higher Education* 10(1) : 53-64 [Online] Available at http://www.sciencedirect.com/science/article/pii/S1096751606000728 Last accessed 26/3/2013

Graham C R (2005) Blended learning systems: Definition, current trends, and future directions. In Bonk C J & Graham C R *Handbook of blended learning: Global perspectives, local designs*. San Francisco, CA: Pfeiffer. pp. 3–21.

Kirkup A and Price L (2013). Technology-enhanced learning and teaching in Higher Education: what is enhanced and how do we know? A critical literature review *Learning Media and Tehnology.*[available online], DOI: 10.1080/17439884.2013.770404. http://www.tandfonline.com/doi/full/10.1080/17439884.2013.770404#.Ukvi9lO8AxE. Last accessed 29/08/2013.

Litosseliti, L. (2003) *Using Focus Groups in Research* London: Continuum.

Littlejohn A & Pegler C (2007) *Preparing for blended e-Learning*. New York, Routledge

Miles M and Huberman A (eds) (2002) *The Qualitative Researcher's Companion* London Sage

Morse J (2004) Qualitative comparison: appropriateness, equivalence and fit. *Qualitative Health Research* 14(10): 1323-1325

Rowe, M. Franz, J. and Bozalek, V. (2012).The role of blended learning in the clinical education of healthcare students: A systematic review, Medical Teacher 34 (4), e216-e221.

Ryan-Nicholls , K and Will, C (2009) Rigour in qualitative research: mechanisms for control *Nurse Researcher* 16(3): 70-85

Saldaña J (2013). The Coding Manual for Qualitative Researchers 2nd ed. London: SAGE.

Sandelowski, M (2004) Using qualitative research *Qualitative Health Research 14(10): 1366-1386*

Welker J and Beradino L (2005) Blended learning: understanding the middle ground between traditional classroom and fully online instruction. *Journal of Educational Technology Systems* 34n (1) 33-55.